EXPRESS TERMS

FOR

PROPOSED BUILDING STANDARDS

OF THE

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

REGARDING THE ADOPTION BY REFERENCE OF THE

2003 EDITION OF THE INTERNATIONAL RESIDENTIAL CODE (IRC)

FOR ONE- AND TWO- FAMILY DWELLINGS

INTO THE CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 2.1

Legend for Express Terms:

1. California amendments brought forward without modification: *All such language appears in Italics.*

2. California amendments brought forward with modification*: All such language appears in Italics, modified language is underlined.*

3. New IRC language with new California amendment: IRC language is shown in normal Arial 12 pt. California amendments to IRC text appear *underlined and in italics.*

4. New California amendment: *California language appears underlined and in Italics.*

5. Repealed Text: Shown as ~~*Strikeout.*~~

CHAPTER 1
ADMINISTRATION

Note: Adopt only those sections listed below.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]
1. *The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).*

R101.1.1 [For HCD 1] Title – California Residential Code. *This document shall be known as the "California Residential Code." Where a reference to the International Residential Code or IRC appears in the text of this code, the reader shall understand the reference to be the California Residential Code for One- and Two- Family Dwellings, Part 2.1 of Title 24, California*

Code of Regulations. The provisions contained in the California Residential Code of the (compiled) California Building Standards Code as defined in Section 18910, Health and Safety Code, may be cited as such and are referred to hereafter as "these regulations" , " these plumbing standards" or "this code".

R101.2 Scope *[For HCD 1].* The provisions of the *International Residential Code for One– and Two–Family Dwellings* shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one– and two–family dwellings and multiple single–family dwellings (townhouses) not more than three stories in height with a separate means of egress and structures accessory thereto.

R101.3.1 [For HCD 1] **Purpose *for California*.** The purpose of this code is to provide minimum requirements to safeguard *the public safety, health and general welfare through structural strength, means of egress facilities, stability, sanitation, use and occupancy, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment.*

California Purpose. *To provide minimum standards to safeguard life or limb, health, property and public welfare, and protect against hazards that may arise from the use of plumbing piping and systems by regulating and controlling the design, construction, installation, quality of materials, location and operation of plumbing piping systems within the State of California.*

R101.4 [For HCD 1] Effective Date. *One hundred and eighty days after the date of publication, or as otherwise noted herein. Notwithstanding other provisions of law, the applicable sections and subsection of the Health and Safety Code are repeated here for clarity and reads as follows:*

> ***Section 17958****. Except as provided in Sections 17958.8 and 17958.9, any city or county may make changes in the provisions adopted pursuant to Section 17922 and published in the California Building Standards Code or the other regulations thereafter adopted pursuant to Section 17922 to amend, add, or repeal ordinances or regulations which impose the same requirements as are contained in the provisions adopted pursuant to Section 17922 and published in the California Building Standards Code or the other regulations adopted pursuant to Section 17922 or make changes or modifications in those requirements upon express findings pursuant to Sections 17958.5 and 17958.7. If any city or county does not amend, add, or repeal ordinances or regulations to impose those requirements or make changes or modifications in those requirements upon express findings, the provisions published in the California Building Standards Code or the other regulations promulgated pursuant to Section 17922 shall be applicable to it and shall become effective 180 days after publication by the California Building Standards Commission. Amendments, additions, and deletions to the California Building Standards Code adopted by a city or county pursuant to Section 17958.7, together with all applicable portions of the California Building Standards Code, shall become effective 180*

days after publication of the California Building Standards Code by the California Building Standards Commission.

Section 18938(b). *The building standards contained in the Uniform Fire Code, published by the International Conference of Building Officials and the Western Fire Chiefs Association, the Uniform Building Code published by the International Conference of Building Officials, the Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials, the National Electrical Code published by the National Fire Protection Association, the Uniform Mechanical Code published by the International Conference of Building Officials, as referenced in the California Building Standards Code, shall apply to all occupancies throughout the state and shall become effective 180 days after publication in the California Buildings Standards Code by the California Building Standards Commission, or at a later date after publication established by the commission.*

R101.5 [For HCD 1] Format. *This part fundamentally adopts the IRC by reference on a chapter-by-chapter basis. Such adoption is reflected in the adoption table of each chapter of this part. When the adoption table of a chapter of this part makes no reference to a specific chapter of the IRC, such chapter of the IRC is not adopted as a portion of this code.*

R101.6 [For HCD 1] Validity. *If any chapter section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the State as stipulated by statutes, or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.*

R101.7 [For HCD 1] Standard Reference Documents. *The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein, by title and date of publication, are hereby adopted as standard reference documents of this code.*

R101.8 [For HCD 1] Nonbuilding Regulations. *Requirements contained in the IRC, or in any other referenced standard, code or document, which are not building standards as defined in Section 18909, Health and Safety Code, shall not be construed as part of the provisions of this code.*

For the applicability of regulations relating to maintenance, operation, use, limitations or prohibitions, and similar nonbuilding regulations, see other titles of the California Code of Regulations

R101.9 [For HCD 1] Order of Precedence.

R101.9.1 [For HCD 1] General. *In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall*

govern. Where a specific provision varies from a general provision, the specific provision shall apply.

R101.10 [For HCD 1] More Restrictive Standards. *The applicable subsection of the Health and Safety Code Section is repeated here for clarity and reads as follows:*

> ***Section 18941.5(b).*** *Neither the State [California] Building Standards Law contained in this part, nor the application of building standards contained in this section, shall limit the authority of a city, county, or city and county to establish more restrictive building standards reasonably necessary because of local climatic, geological or topographical conditions. The governing body shall make the finding required by Section 17958.7 and the other requirements imposed by Section 17958.7 shall apply to that finding. Nothing in this section shall limit the authority of fire protection districts pursuant to subdivision (a) of Section 13869.7. Further, nothing in this section shall require findings required by Section 17958.8 beyond those currently required for more restrictive building standards related to housing.*

R101.11 [For HCD 1]. Amendments, Additions, and Deletions: *Amendments, additions and deletions to the California Building Standards Code adopted by a city, county, or city and county pursuant to Section 18941.5, together with all applicable portions of the California Building Standards Code, shall become effective 180 days after publication of the California Building Standards Code by the commission or at a later date after publication established by the commission*

R101.12 [For HCD 1] Local Variances. *The applicable sections and subsections of the Health and Safety Code are repeated here for clarity and read as follows:*

> ***Section 17958.5.*** *Except as provided in Section 17922.6, in adopting the ordinances or regulations pursuant to Section 17958, a city or county may make such changes or modifications in the requirements contained in the provisions published in the California Building Standards Code and the other regulations adopted pursuant to Section 17922 as it determines, pursuant to the provisions of Section 17958.7, are reasonably necessary because of local climatic, geological or topographical conditions.*
>
> *For purposes of this subdivision, a city and county may make reasonably necessary modifications to the requirements, adopted pursuant to Section 17922, contained in the provisions of the code and regulations on the basis of local conditions.*
>
> ***Section 18941.5(b).*** *Neither the State [California] Building Standards Law contained in this part, nor the application of building standards contained in this section, shall limit the authority of a city, county, or city and county to establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographical conditions. The governing body shall make the finding required by Section 17958.7 and the other requirements imposed by Section 17958.7 shall apply to that finding. Nothing in*

this section shall limit the authority of fire protection districts pursuant to subdivision (a) of Section 13869.7. Further, nothing in this section shall require findings required by Section 17958.7 beyond those currently required for more restrictive building standards related to housing.

R101.13 [For HCD 1] Findings, Filings and Rejections of Local Variances. *The applicable subsections of the Health and Safety Code are repeated here for clarity and read as follows:*

Section 17958.7

(a) *Except as provided in Section 17922.6, the governing body of a city or county, before making any modifications or changes pursuant to Section 17958.5, shall make an express finding that such modifications or changes are reasonably necessary because of local climatic, geological or topographical conditions. Such a finding shall be available as a public record. A copy of those findings, together with the modification or change expressly marked and identified to which each finding refers, shall be filed with the California Building Standards Commission. No modification or change shall become effective or operative for any purpose until the finding and the modification or change have been filed with the California Building Standards Commission.*

(b) *The California Building Standards Commission may reject a modification or change filed by the governing body of a city or county if no finding was submitted.*

R101.15 [For HCD 1] Availability of Code. *The applicable subsection of the Health and Safety Code is repeated here for clarity and reads as follows:*

Section 18942(d)

(1) *Each city, county, and city and county, including charter cities, shall obtain and maintain with all revisions on a current basis, at least one copy of the building standards and other state regulations relating to buildings published in Titles 8, 19, 20, 24,and 25 of the California Code of Regulations. These codes shall be maintained in the office of the building official responsible for the administration and enforcement of this part.*

(2) *This subdivision shall not apply to any city or county which contracts for the administration and enforcement of the provisions of this part with another local government agency which complies with this section.*

R102.1.1 [For HCD 1] Application.

Vesting Authority. *When adopted by a state agency, the provisions of these regulations shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the State Legislature or State Constitution.*

Following is a list of the state agencies that adopt building standards, the specific scope of application of the agency responsible for enforcement, and the specific statutory authority of

each agency to adopt and enforce such provisions of building standards of this code, unless otherwise stated.

R102.1.2 [HCD 1] HCD – 1 Department of Housing and Community Development.

Application *- Hotels, motels, lodging houses, apartment houses, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing and factory-built housing and other types of dwellings containing sleeping accommodations with common toilet or cooking facilities. Refer to section 102.1.14 of this code [State Fire Marshal] for fire and panic safety.*

Enforcing Agency *– Local building department or the Department of Housing and Community Development.*

Authority Cited: *Health and Safety Code Sections, 17007, 17921, 17922, and 19990.*

Reference: *Health and Safety Code Sections 17000 through 17060, 17910 through 17990, 19960 through 19997, and Government Code Section 12955.1.*

R104.1.1 [For HCD 1] –City or County Building Departments.

R104.1.1.1 [For HCD 1] General - State Housing Law *The applicable subsection of Health and Safety Code Section 17960 is repeated here for clarity and reads as follows:*

> ***Section 17960.*** *The building department of every city or county shall enforce within its jurisdiction all the provisions published in the State [California] Building Standards Code, the provisions of this part, and the other rules and regulations promulgated pursuant to the provisions of this part pertaining to the erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal, demolition, or arrangement of apartment houses, hotels, or dwellings.*

Note: *[For HCD 1] See Section 102.1.9*

R104.1.1.2 [For HCD 1] General-Employee Housing Act. *Refer to the Employee Housing Act, California Health and Safety Code, Division 13, Part 1 commencing with Section 17000 and California Code of Regulations, Title 25, Division 1, Chapter 1, commencing with Section 600 for employee housing administrative and enforcement authority, permits, fees, violations, inspections and penalties.*

Note: [For HCD 1]: *See Section R102.1.9.*

R104.1.1.3 [For HCD 1] General - Factory-Built Housing. *Refer to the Factory-Built Housing Law, California Health and Safety Code, Division 13, Part 6, commencing with Chapter 1,*

Section 19960 and the California Code of Regulations, Title 25, Division 1, Chapter 3, commencing with Subchapter 1, Article 1, Section 3000 for factory-built housing administrative and enforcement authority, permits, fees, violations, inspections and penalties.

NOTE: [For HCD 1] *See Section R102.1.9.*

R104.6.1 [For HCD 1] Authority to Enter and Inspect Premises. *Health and Safety Code Sections 17050(i) and 17970 are repeated here for clarity and read as follows:*

Section 17050(i). *The enforcement agency may:*

(1) *Enter public or private properties to determine whether there exists any employee housing to which this part applies.*

(2) *Enter and inspect all employee housing wheresoever situated, and inspect all accommodations, equipment, or paraphernalia connected therewith.*

(3) *Enter and inspect the land adjacent to the employee housing to determine whether the sanitary and other requirements of this part, the building standards published in the California Building Standards Code relating to employee housing, and the other rules and regulations adopted pursuant to this part have been or are being complied with.*

Section 17970. *Any officer, employee, or agent of an enforcement agency may enter and inspect any building or premises whenever necessary to secure compliance with, or prevent a violation of, any provision of this part, the building standards published in the State [California] Building Standards Code, and other rules and regulations promulgated pursuant to the provisions of this part which the enforcement agency has the power to enforce.*

Section 17972. *No person authorized by this article to enter buildings shall enter any dwelling between the hours of 6 o'clock p.m. of any day and 8 o'clock a.m. of the succeeding day, without the consent of the owner or of the occupants of the dwelling, nor enter any dwelling in the absence of the occupants without a proper written order executed and issued by a court having jurisdiction to issue the order.*

R104.12.1 [For HCD 1] Alternate for materials, designs, tests and methods of construction.

R104.12.1.1 General – State Housing Law [For HCD 1] *Notwithstanding other provisions of law, the method for approval of alternate materials, design, tests and methods of construction by local building departments are set forth in State Housing Law, Health and Safety Code, Division 13, Section 17951 (d) and California Code of Regulations, Title 25, Division 1, Chapter 1. The applicable subsections of Health and Safety Code Section 17951(d) are repeated here for clarity and reads as follows:*

Section 17951(d).
(2) The building department of any city or county may approve an alternate if it finds that the proposed design is satisfactory and that the material, appliance, installation, device, arrangement, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in the California Building Standards Code or this part in performance, safety, and for the protection of life and health.

(3) The building department of any city or county shall require evidence that any material, appliance, installation, device, arrangement, or method of construction conforms to, or that the proposed alternate is at least equivalent to, the requirements of this part, building standards published in the California Building Standards Code, or the other rules and regulations promulgated pursuant to this part and in order to substantiate claims for alternates, the building department of any city or county may require tests as proof of compliance to be made at the expense of the owner or the owner's agent by an approved testing agency selected by the owner or the owner's agent.

NOTE [For HCD 2*]: Refer to Title 24, Part 2, Section 104.2.1.1*

R104.12.1.2 General – Employee Housing Act [For HCD 1] *Notwithstanding any other provisions of law, the method for approval of alternate materials, appliances, installations, devices, arrangements, or methods of construction are set forth in the Employee Housing Act, Health and Safety Code, Section 17002 and California Code of Regulations, Title 25, Division 1, Chapter 1, commencing with Subchapter 3, Article 1, Section 600.*

R104.12.2 [For HCD 1] Additions, alterations, repairs and moved buildings.
Notwithstanding any other provisions of law, alterations, repairs, replacements, occupancy, use and maintenance provisions, and moved buildings are governed by the State Housing Law, Health and Safety Code, Sections 17912, 17920.3, 17922 (c), 17922.3, 17958.8 and 17958.9 and California Code of Regulations, Title 25, Chapter 1. Health and Safety Code Sections 17958.8 and 17958.9 are repeated to provide clarity.

Section 17958.8. *Local ordinances or regulations governing alterations and repair of existing buildings shall permit the replacement, retention, and extension of original materials and the use of original methods of construction as long as the hotel, lodging house, motel, apartment house, or dwelling, or portions thereof, or building and structure accessory thereto, complies with the provisions published in the State Building Standards Code and the other rules and regulations of the department or alternative local standards adopted pursuant to Section 17920.7 and does not become or continue to be a substandard buildings.*

Section 17958.9. *Local ordinances or regulations governing the moving of apartment houses and dwellings shall, after July 1, 1978, permit the retention of existing materials and methods of construction so long as the apartment house or dwelling complies with*

the building standards for foundation applicable to new construction, and does not become or continue to be a substandard building.

R106.3.1.1 [For HCD 1] Plan review and time limitations. *Notwithstanding other provisions of law, provisions related to plan checking, prohibition of excessive delays and contracting with or employment of private parties to perform plan checking are set forth in State Housing Law, Health and Safety Code, Section 17960.1.*

R106.5.1 [For HCD 1] Retention of plans.

Note: *Refer to California Building Standards Law, Health and Safety Code, Sections 19850 and 19851, for provisions related to permanent retention of plans. For plan checking of related "Employee Housing," as defined in HSC 17008, refer also to HSC 17021(b) [Effective January 1, 2001].*

R108.1.1 [For HCD 1] Local Fees. *Notwithstanding other provisions of law, reference State Housing Law, Health and Safety Code, Division 13, Part 1.5, Section 17951 and California Code of Regulations, Title 25, Division 1, Chapter 1 for local enforcement agency's authority to prescribe fees.*

R109.1 ***[For HCD 1]*** **Types of Inspections.** For on-site construction, from time to time the building official, upon notification from the permit holder or his agent, shall make or cause to be made any necessary inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his or her agent wherein the same fails to comply with this code. *The enforcing agency, upon notification from the permit holder or their agent, shall within a reasonable time make the inspections set forth in Sections R109.1.1, R109.1.1.1, R109.1.4, R109.1.4.1, R109.1.5.1, R109.1.5.2, R109.1.6 ,and R109.1.7 of this code.*

Note: *Reinforcing steel or structural framework of any part of any building or structure shall not be covered or concealed without first obtaining the approval of the enforcing agency.*

R109.1.1 ***[For HCD 1]*** **Foundation inspection**. Inspection of the foundation shall be made after poles or piers are set or trenches or basement areas are excavated and any required forms erected and any required reinforcing steel is in place and prior to the placing of concrete. The foundation inspection shall include excavations for thickened slabs intended for the support of bearing walls, partitions, structural supports, or equipment and special requirements for wood foundations. *Materials for the foundation shall be on the job site. However, where concrete is ready mixed in accordance with ASTM C 94, the concrete need not be on the job site.*

R109.1.1.1 [For HCD 1] Concrete slab or under-floor inspection*. Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items*

are installed, but before any concrete is placed or floor sheathing installed, including the sub-floor.

R109.1.4 ***[For HCD 1]*** **Frame and masonry inspection.** Inspection of framing and masonry construction shall be made after the roof, masonry, all framing, fire-stopping, draftstopping and bracing are in place, and after *all conduits, plumbing pipes, chimneys and vents to be concealed are complete and the rough electrical, plumbing, heating wires, conduits, plumbing pipes and ducts* are approved.

R109.1.4.1 [For HCD 1] Lath or gypsum board inspection*. Lath and gypsum board inspections shall be made after all interior and exterior lathing and gypsum board are in place, but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.*

R109.1.5.2 [For HCD 1] Fire resistant penetrations. *Protection of joints and penetrations in fire resistance rated assemblies shall not be concealed from view until inspected and approved.*

R109.1.7 ***[For HCD 1]*** **Special inspections.** For special inspections, see *California Building Code, Section 1704*.

R109.1.8 [For HCD 1] Excavation and grading. *Notwithstanding other provisions of law, reference Health and Safety Code, Sections 17953, 17954, 17955, and California Code of Regulations, Title 25, Division 1, Chapter 1, commencing with Subchapter 1, Article 1, Section 1 and Title 24, Part 2, Appendix K, Excavation and Grading.*

R113.1.1 [For HCD 1] Actions and Proceedings. *Notwithstanding other provisions of law, California Code of Regulations, Title 25, Division 1, Chapter 1, commencing with Subchapter 1, Article 1, Section 1 and Health and Safety Code, Sections 17980 through 17995.5 address punishments, penalties and fines for violations of building standards in structures subject to the State Housing Law.*

R113.1.2 [For HCD 1] Actions and proceedings. *Notwithstanding other provisions of law, California Code of Regulations, Title 25, Division 1, Chapter 1, commencing with Subchapter 3, Article 1, Section 600 and Health and Safety Code, Sections 17060 through 17062.5 address punishments, penalties and fines for violations of building standards subject to the Employee Housing Act.*

R115.1 [For HCD 1] Authority to Enforce. *Notwithstanding other provisions of law, for administration, enforcement, actions, proceedings, abatement, violations and penalties in structures subject to State Housing Law, refer to California Health and Safety Code, Sections 17910 through 17995.5 and California Code of Regulations, Title 25, Division 1, Chapter 1, commencing with Subchapter 1, Article 1, Section 1*

***R115.2 [For HCD 1]. Notwithstanding** other provisions of law, for administration, enforcement, actions, proceedings, violations and penalties applicable to the Employee Housing Act, refer to Health and Safety Code, Division 13, Part 1, Sections 17000 through 17062.5 and California Code of Regulations, Title 25, Division 1, Chapter 1, commencing with Subchapter 3, Article 1, Section 600*

CHAPTER 2
DEFINITIONS

Note: Adopt only those sections and terms listed below.

MATRIX ADOPTION TABLE FOOTNOTES: [For HCD 1]
1. *The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).*
2. *The following IRC Text definitions: "Approved," "Approved Agency," "Building," "Building Official," "Dwelling Unit," "Labeled," are not adopted because these definitions have new, existing, or amended California Amendments , with the same meaning in the California Building Code, Title 24, Part 2. The correlating California Amendments have been incorporated into this code.*

R201.1 Scope *[For HCD 1]* Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code have the meanings indicated in this chapter.

R201.4 *[For HCD 1]* Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

R201.3 *[Not adopted by HCD]* Terms defined in other codes. Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International Code Council

R201.3.1 [For HCD 1] Terms defined in other codes. *Where terms are not defined in this code such terms shall have meanings ascribed to them as in the California Building Standards Code, Title 24, California Code of Regulations,.*

SECTION R202 – DEFINITIONS

AIR ADMITTANCE VALVE. ***[Not adopted by HCD]*** A one–way valve designed to allow air into the plumbing drainage system when a negative pressure develops in the piping. This device shall close by gravity and seal the terminal under conditions of zero differential pressure (no flow conditions) and under positive internal pressure.

AIR BREAK, DRAINAGE SYSTEM*. [Not adopted by HCD]* An arrangement in which a discharge pipe from a fixture, appliance or device drains indirectly into a receptor below the flood–level rim of the receptor.

AIR CIRCULATION, FORCED. ***[Not adopted by HCD]*** A means of providing space conditioning utilizing movement of air through ducts or plenums by mechanical means.

AIR–CONDITIONING SYSTEM. ***[Not adopted by HCD]*** A system that consists of heat exchangers, blowers, filters, supply, exhaust and return–air systems, and shall include any apparatus installed in connection therewith.

AIR GAP, DRAINAGE SYSTEM. ***[Not adopted by HCD]*** The unobstructed vertical distance through free atmosphere between the outlet of a waste pipe and the flood–level rim of the fixture or receptor into which it is discharging.

AIR GAP, WATER–DISTRIBUTION SYSTEM. ***[Not adopted by HCD]*** The unobstructed vertical distance through free atmosphere between the lowest opening from a water supply discharge to the flood–level rim of a plumbing fixture.

[B] ANCHORS. ***[Not adopted by HCD]*** See "Supports."

ANTISIPHON. ***[Not adopted by HCD]*** A term applied to valves or mechanical devices that eliminate siphonage.

APPROVED. ***[Not adopted by HCD]*** Approved refers to approval by the building official as the result of investigation and tests conducted by him or her, or by reason of accepted principles or tests by nationally recognized organizations.

APPROVED [For HCD 1] *Health and Safety Code Section 17920(a) is repeated here for clarity and reads as follows:*

Section 17920(a). *"Approved" means acceptable to the Department.*

"Approved" also means meeting the approval of the enforcement agency, except as otherwise provided by statute, when used in connection with any system, material, type of construction, fixture, or appliance as the result of investigations and tests conducted by the agency, or by reason of accepted principles or tests by national authorities, technical, health, or scientific organizations or agencies.

Notes: 1. *See Health and Safety Code Section 17921.1 for "approved" as applied to the use of hotplates in residential construction referenced in R102.1.9. of this code.*

2. *See Health and Safety Code Section 17921.3 for "approved" as applied to low-flush water closets in residential construction, as referenced in Section 101.11.8.1 of this code.*

3. *See Health and Safety Code Section 19966 for "approved" as applied to Factory Built Housing as referenced in Section 101.11.8.1 of this code.*

APPROVED AGENCY. ***[Not adopted by HCD]*** An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved by the building official.

BACKFLOW, DRAINAGE. ***[Not adopted by HCD]*** A reversal of flow in the drainage system.

BACKFLOW PREVENTER. ***[Not adopted by HCD]*** A device or means to prevent backflow.

BACKFLOW PREVENTER, REDUCED–PRESSURE–ZONE TYPE. ***[Not adopted by HCD]*** A backflow–prevention device consisting of two independently acting check valves, internally force loaded to a normally closed position and separated by an intermediate chamber (or zone) in which there is an automatic relief means of venting to atmosphere internally loaded to a normally open position between two tightly closing shutoff valves and with means for testing for tightness of the checks and opening of relief means.

BACKFLOW, WATER DISTRIBUTION. ***[Not adopted by HCD]*** The flow of water or other liquids into the potable water–supply piping from any sources other than its intended source. Backsiphonage is one type of backflow.

BACKPRESSURE. ***[Not adopted by HCD]*** Pressure created by any means in the water distribution system, which by being in excess of the pressure in the water supply mains causes a potential backflow condition.

BACKPRESSURE, LOW HEAD. ***[Not adopted by HCD]*** A pressure less than or equal to 4.33 psi (29.88 kPa) or the pressure exerted by a 10-foot (3048 mm) column of water.

BACKSIPHONAGE. ***[Not adopted by HCD]*** The flowing back of used or contaminated water from piping into a potable water–supply pipe due to a negative pressure in such pipe.

BACKWATER VALVE. ***[Not adopted by HCD]*** A device installed in a drain or pipe to prevent backflow of sewage.

BALL COCK. ***[Not adopted by HCD]*** A valve that is used inside a gravity–type water closet flush tank to control the supply of water into the tank. It may also be called a flush–tank fill valve or water control.

BATHROOM GROUP. ***[Not adopted by HCD]*** A group of fixtures, including or excluding a bidet, consisting of a water closet, lavatory, and bathtub or shower. Such fixtures are located together on the same floor level.

BEND. ***[Not adopted by HCD]*** A drainage fitting, designed to provide a change indirection of a drain pipe of less than the angle specified by the amount necessary to establish the desired slope of the line (see “Elbow” and “Sweep”).

BOILER. ***[Not adopted by HCD]*** A self–contained appliance from which hot water is circulated for heating purposes and then returned to the boiler, and which operates at water pressures not exceeding 160 pounds per square inch gage (psig) (1102 kPa gage) and at water temperatures not exceeding 250_F (121_C).

BRANCH. ***[Not adopted by HCD]*** Any part of the piping system other than a riser, main or stack.

BRANCH, FIXTURE. ***[Not adopted by HCD]*** See "Fixture branch, drainage."

BRANCH, HORIZONTAL. ***[Not adopted by HCD]*** See "Horizontal branch, drainage."

BRANCH, INTERVAL. ***[Not adopted by HCD]*** A distance along a soil or waste stack corresponding to a story height, but not less than 8 feet(2438 mm), within which the horizontal branches from one floor or story of a building are connected to the stack.

BRANCH, MAIN. ***[Not adopted by HCD]*** A water–distribution pipe that extends horizontally off a main or riser to convey water to branches or fixture groups.

BRANCH, VENT. ***[Not adopted by HCD]*** A vent connecting two or more individual vents with a vent stack or stack vent.

BTU/H. ***[Not adopted by HCD]*** The listed maximum capacity of an appliance, absorption unit or burner expressed in British thermal units input per hour.

BUILDING. ***[Not adopted by HCD]*** Building shall mean any one– and two–family dwelling or portion thereof, including townhouses, that is used, or designed or intended to be used for human habitation, for living, sleeping, cooking or eating purposes, or any combination thereof, and shall include accessory structures thereto.

BUILDING. [For HCD 1] *Building is any structure over which state agencies have regulatory authority, used or intended for supporting or sheltering any use or occupancy, housing or enclosure of persons, animals, chattels, equipment or property of any kind, and also includes structures wherein things may be grown, made, produced, kept, handled, stored or disposed of, and all appendages, accessories, apparatus, appliances and equipment installed as a part thereof.*

"BUILDING" shall not include machinery, equipment or appliances installed for manufacture or process purposes only, nor shall it include any construction installations which are not a part of a building, any tunnel, mine shaft, highway or bridge, or include any house trailer or vehicle which conforms to the Vehicle Code.

Note: *BUILDING shall have the same meaning as defined in Health and Safety Code Sections 17920 and 18908 for the applications specified in Section R102.1.9. of this code.*

BUILDING CODE. [For HCD 1] *Whenever the term Building Code is used in this code, it shall mean the California Building Code, Title 24, Part 2.*

BUILDING DRAIN. ***[Not adopted by HCD]*** The lowest piping that collects the discharge from all other drainage piping inside the house and extends 30 inches (762 mm) in developed length of pipe, beyond the exterior walls and conveys the drainage to the building sewer.

[B] BUILDING OFFICIAL. ***[Not adopted by HCD]*** The officer or other designated authority charged with the administration and enforcement of this code.

BUILDING OFFICIAL [For HCD 1] *The officer or other designated authority charged with the administration and enforcement of this code, or the building official's duly authorized representative, in accordance with state law.*

BUILDING SEWER. ***[Not adopted by HCD]*** That part of the drainage system that extends from the end of the building drain and conveys its discharge to a public sewer, private sewer, individual sewage–disposal system or other point of disposal.

BUILDING THERMAL ENVELOPE. ***[Not adopted by HCD]*** The basement walls, exterior walls, floor, roof and any other building element that enclose conditioned spaces.

CELLULAR CONCRETE [For HCD 1] *is a lightweight product consisting of Portland cement and selected gas-forming chemicals or foaming agents which create homogeneous voids in the hardened concrete.*

CIRCUIT VENT. ***[Not adopted by HCD]*** A vent that connects to a horizontal drainage branch and vents two traps to a maximum of eight traps or trapped fixtures connected into a battery.

CLEANOUT. ***[Not adopted by HCD]*** An accessible opening in the drainage system used for the removal of possible obstruction.

COMBINATION WASTE AND VENT SYSTEM. ***[Not adopted by HCD]*** A specially designed system of waste piping embodying the horizontal wet venting of one or more sinks or floor drains by means of a common waste and vent pipe adequately sized to provide free movement of air above the flow line of the drain.

COMBUSTION AIR. ***[Not adopted by HCD]*** The air provided to fuel–burning equipment including air for fuel combustion, draft hood dilution and ventilation of the equipment enclosure.

COMMON VENT. ***[Not adopted by HCD]*** A single pipe venting two trap arms within the same branch interval, either back–to–back or one above the other.

CONGREGATE RESIDENCE [For HCD 1] *is any building or portion thereof that contains facilities for living, sleeping and sanitation, as required by this code, and may include facilities for eating and cooking, for occupancy by other than a family. A congregate residence may be a shelter, convent, monastery, dormitory, fraternity or sorority house, but does not include jails, hospitals, nursing homes, hotels or lodging houses.*

CONDENSATE. ***[Not adopted by HCD]*** The liquid that separates from a gas due to a reduction in temperature, e.g., water that condenses from flue gases and water that condenses from air circulating through the cooling coil in air conditioning equipment.

CONDENSING APPLIANCE. ***[Not adopted by HCD]*** An appliance that condenses water generated by the burning of fuels.

CONDITIONED AIR. ***[Not adopted by HCD]*** Air treated to control its temperature, relative humidity or quality.

CONDITIONED AREA. ***[Not adopted by HCD]*** That area within a building provided with heating and/or cooling systems or appliances capable of maintaining, through design or heat loss/gain, 68_F (20_C) during the heating season and/or 80_F (27_C) during the cooling season, or has a fixed opening directly adjacent to a conditioned area.

CONDITIONED FLOOR AREA. ***[Not adopted by HCD]*** The horizontal projection of the floors associated with the conditioned space.

CONDITIONED SPACE. ***[Not adopted by HCD]*** For energy purposes, space within a building that is provided with heating and/or cooling equipment or systems capable of maintaining, through design or heat loss/gain, 50_F (10_C) during the heating season and 85_F (29_C) during the cooling season, or communicates directly with a conditioned space. For mechanical purposes, an area, room or space being heated or cooled by any equipment or appliance.

CONFINED SPACE. ***[Not adopted by HCD]*** A room or space having a volume less than 50 cubic feet per 1,000 Btu/h (4.83 L/W) of the aggregate input rating of all fuel–burning appliances installed in that space.

CONTINUOUS WASTE. ***[Not adopted by HCD]*** A drain from two or more similar adjacent fixtures connected to a single trap.

CONTAMINATION. ***[Not adopted by HCD]*** An impairment of the quality of the potable water that creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids, or waste.

CONTROL, LIMIT. [Not adopted by HCD] An automatic control responsive to changes in liquid flow or level, pressure, or temperature for limiting the operation of an appliance.

CONTROL, PRIMARY SAFETY. ***[Not adopted by HCD]*** A safety control responsive directly to flame properties that senses the presence or absence of flame and, in event of ignition failure or unintentional flame extinguishment, automatically causes shutdown of mechanical equipment.

CONVECTOR. ***[Not adopted by HCD]*** A system–incorporating heating element in an enclosure in which air enters an opening below the heating element, is heated and leaves the enclosure through an opening located above the heating element.

CROSS CONNECTION. ***[Not adopted by HCD]*** Any connection between two otherwise separate piping systems whereby there may be a flow from one system to the other.

DAMPER, VOLUME. ***[Not adopted by HCD]*** A device that will restrict, retard or direct the flow of air in any duct, or the products of combustion of heat–producing equipment, vent connector, vent or chimney.

DEAD END. ***[Not adopted by HCD]*** A branch leading from a DWV system terminating at a developed length of 2 feet (610 mm) or more. Dead ends shall be prohibited except as an approved part of a rough–in for future connection.

DEPARTMENT [For HCD 1] *is the Department of Housing and Community Development.*

DEVELOPED LENGTH. ***[Not adopted by HCD]*** The length of a pipeline measured along the center line of the pipe and fittings.

DILUTION AIR. ***[Not adopted by HCD]*** Air that enters a draft hood or draft regulator and mixes with flue gases.

DIRECT–VENT APPLIANCE. ***[Not adopted by HCD]*** A fuel–burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

DRAFT. ***[Not adopted by HCD]*** The pressure difference existing between the appliance or any component part and the atmosphere, that causes a continuous flow of air and products of combustion through the gas passages of the appliance to the atmosphere.

Induced draft. The pressure difference created by the action of a fan, blower or ejector, that is located between the appliance and the chimney or vent termination.
Natural draft. The pressure difference created by a vent or chimney because of its height, and the temperature difference between the flue gases and the atmosphere.

DRAFT HOOD. ***[Not adopted by HCD]*** A device built into an appliance, or a part of the vent connector from an appliance, which is designed to provide for the ready escape of the flue gases from the appliance in the event of no draft, backdraft or stoppage beyond the draft hood;

prevent a backdraft from entering the appliance; and neutralize the effect of stack action of the chimney or gas vent on the operation of the appliance.R202

DRAFT REGULATOR. ***[Not adopted by HCD]*** A device that functions to maintain a desired draft in the appliance by automatically reducing the draft to the desired value.

DRAIN. ***[Not adopted by HCD]*** Any pipe that carries soil and water–borne wastes in a building drainage system.

DRAINAGE FITTING. ***[Not adopted by HCD]*** A pipe fitting designed to provide connections in the drainage system that have provisions for establishing the desired slope in the system. These fittings are made from a variety of both metals and plastics. The methods of coupling provide for required slope in the system (see “Durham fitting”).

DUCT SYSTEM. ***[Not adopted by HCD]*** A continuous passageway for the transmission of air which, in addition to ducts, includes duct fittings, dampers, plenums, fans and accessory air–handling equipment and appliances.

DURHAM FITTING. ***[Not adopted by HCD]*** A special type of drainage fitting for use in the durham systems installations in which the joints are made with recessed and tapered threaded fittings, as opposed to bell and spigot lead/oakum or solvent/cemented or soldered joints. The tapping is at an angle (not 90 degrees) to provide for proper slope in otherwise rigid connections.

DURHAM SYSTEM. ***[Not adopted by HCD]*** A term used to describe soil or waste systems where all piping is of threaded pipe, tube or other such rigid construction using recessed drainage fittings to correspond to the types of piping.

DWELLING UNIT. ***[Not adopted by HCD]*** A single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.

DWELLING UNIT [For HCD 1] *is any building or portion thereof that contains living facilities, including provisions for sleeping, eating, cooking and sanitation, as required by this code, for not more than one family, or a congregate residence for 10 or less persons.* ***[For HCD 1/AC]*** *See Chapter 12A of the California Building Code, Title 24, Part 2.*

DWV. ***[Not adopted by HCD]*** Abbreviated term for drain, waste and vent piping as used in common plumbing practice.

EFFECTIVE OPENING. ***[Not adopted by HCD]*** The minimum cross–sectional area at the point of water–supply discharge, measured or expressed in terms of diameter of a circle and if the opening is not circular, the diameter of a circle of equivalent cross–sectional area. (This is applicable to air gap.)

ELBOW. ***[Not adopted by HCD]*** A pressure pipe fitting designed to provide an exact change in direction of a pipe run. An elbow provides a sharp turn in the flow path (see "Bend" and "Sweep").

ENFORCEMENT. [For HCD 1] *Notwithstanding other provisions of law, the applicable section of the Health and Safety Code is repeated here for clarity and reads as follows:*

Section 17920. *"Enforcement" means diligent effort to secure compliance, including review of plans and permit applications, response to complaints, citation of violations, and other legal process. Except as otherwise provided in this part, "enforcement" may, but need not, include inspections of existing buildings on which no complaint or permit application has been filed, and effort to secure compliance as to these existing buildings.*

ENFORCING AGENCY [For HCD 1] *The designated department or agency as specified by statutes and regulations to enforce the specific building standards promulgated or adopted by the specified state agency. (See Section R102.1.9 of this code).*

ENFORCEMENT AGENCY. [For HCD 1] *See Enforcing Agency.*

EQUIPMENT. ***[Not adopted by HCD]*** All piping, ducts, vents, control devices and other components of systems other than appliances that are permanently installed and integrated to provide control of environmental conditions for buildings. This definition shall also include other systems specifically regulated in this code.

EQUIVALENT LENGTH. ***[Not adopted by HCD]*** For determining friction losses in a piping system, the effect of a particular fitting equal to the friction loss through a straight piping length of the same nominal diameter.

ESSENTIALLY NONTOXIC TRANSFER FLUIDS. ***[Not adopted by HCD]*** Fluids having a Gosselin rating of 1, including propyleneglycol; mineral oil; polydimenthyoil oxane; hydrochlorofluorocarbon, chlorofluorocarbon and hydrofluorocarbon refrigerants; and FDA–approved boiler water additives for steamboilers.

ESSENTIALLY TOXIC TRANSFER FLUIDS. ***[Not adopted by HCD]*** Soil, water or gray water and fluids having a Gosselin rating of 2 or more including ethylene glycol, hydrocarbon oils, ammonia refrigerants and hydrazine.

EVAPORATIVE COOLER. ***[Not adopted by HCD]*** A device used for reducing air temperature by the process of evaporating water into an airstream.

EXCESS AIR. ***[Not adopted by HCD]*** Air that passes through the combustion chamber and the appliance flue in excess of that which is theoretically required for complete combustion.

EXHAUST HOOD, FULL OPENING. ***[Not adopted by HCD]*** An exhaust hood with an opening at least equal to the diameter of the connecting vent.

EXISTING INSTALLATIONS. ***[Not adopted by HCD]*** Any plumbing system regulated by this code that was legally installed prior to the effective date of this code, or for which a permit to install has been issued.

FAMILY. [For HCD 1] *is an individual or two or more persons who by blood or marriage, or otherwise, who live together in a dwelling unit.*

FENESTRATION. [Not adopted by HCD] *Skylights, roof windows, vertical windows (whether fixed or moveable); opaque doors; glazed doors; glass block; and combination opaque/glazed doors.*

FENESTRATION. [For HCD 1] *is any transparent or translucent material plus any sash, frame, mullions and dividers, in the envelope of a building, including, but not limited to, windows, sliding glass doors, French doors, skylights, curtain walls, garden windows, and other doors with a glazed area of more than one half of the door area.*

FIXTURE. ***[Not adopted by HCD]*** See "Plumbing fixture."

FIXTURE BRANCH, DRAINAGE. ***[Not adopted by HCD]*** A drain serving two or more fixtures that discharges into another portion of the drainage system.

FIXTURE BRANCH, WATER-SUPPLY. ***[Not adopted by HCD]*** A water-supply pipe between the fixture supply and a main water-distribution pipe or fixture group main.

FIXTURE DRAIN. ***[Not adopted by HCD]*** The drain from the trap of a fixture to the junction of that drain with any other drain pipe.

FIXTURE FITTING ***[Not adopted by HCD]***
Supply fitting. A fitting that controls the volume and/or directional flow of water and is either attached to or accessible from a fixture or is used with an open or atmospheric discharge.R202

Waste fitting. A combination of components that conveys the sanitary waste from the outlet of a fixture to the connection of the sanitary drainage system.

FIXTURE GROUP, MAIN. ***[Not adopted by HCD]*** The main water–distribution pipe (or secondary branch) serving a plumbing fixture grouping such as a bath, kitchen or laundry area to which two or more individual fixture branch pipes are connected.

FIXTURE SUPPLY. ***[Not adopted by HCD]*** The water–supply pipe connecting a fixture or fixture fitting to a fixture branch.

FIXTURE UNIT, DRAINAGE (d.f.u.). ***[Not adopted by HCD]*** A measure of probable discharge into the drainage system by various types of plumbing fixtures, used to size DWV piping systems. The drainage fixture–unit value for a particular fixture depends on its volume rate of drainage discharge, on the time duration of a single drainage operation and on the average time between successive operations.

FIXTURE UNIT, WATER–SUPPLY (w.s.f.u.). ***[Not adopted by HCD]*** A measure of the probable hydraulic demand on the water supply by various types of plumbing fixtures used to size water–piping systems. The water–supply fixture–unit value for a particular fixture depends on its volume rate of supply, on the time duration of a single supply operation and on the average time between successive operations.

FLOOD–LEVEL RIM. ***[Not adopted by HCD]*** The edge of the receptor or fixture from which water overflows.

FLOOR DRAIN. ***[Not adopted by HCD]*** A plumbing fixture for recess in the floor having a floor–level strainer intended for the purpose of the collection and disposal of waste water used in cleaning the floor and for the collection and disposal of accidental spillage to the floor.

FLOOR FURNACE. ***[Not adopted by HCD]*** A self–contained furnace suspended from the floor of the space being heated, taking air for combustion from outside such space, and with means for lighting the appliance from such space.

FLOW PRESSURE. ***[Not adopted by HCD]*** The static pressure reading in the water–supply pipe near the faucet or water outlet while the faucet or water outlet is open and flowing at capacity.

FLUE. ***[Not adopted by HCD]*** See “Vent.”

FLUE, APPLIANCE. ***[Not adopted by HCD]*** The passages within an appliance through which combustion products pass from the combustion chamber to the flue collar.

FLUE COLLAR. ***[Not adopted by HCD]*** The portion of a fuel–burning appliance designed for the attachment of a draft hood, vent connector or venting system.

FLUE GASES. ***[Not adopted by HCD]*** Products of combustion plus excess air in appliance flues or heat exchangers.

FLUSH VALVE. ***[Not adopted by HCD]*** A device located at the bottom of a flush tank that is operated to flush water closets.

FLUSHOMETER TANK. ***[Not adopted by HCD]*** A device integrated within an air accumulator vessel that is designed to discharge a predetermined quantity of water to fixtures for flushing purposes.

FLUSHOMETER VALVE. ***[Not adopted by HCD]*** A flushometer valve is a device that discharges a predetermined quantity of water to fixtures for flushing purposes and is actuated by direct water pressure.

FUEL–PIPING SYSTEM. ***[Not adopted by HCD]*** All piping, tubing, valves and fittings used to connect fuel utilization equipment to the point of fuel delivery.

FULLWAY VALVE. ***[Not adopted by HCD]*** A valve that in the full open position has an opening cross–sectional area equal to a minimum of 85 percent of the cross–sectional area of the connecting pipe.

FURNACE. ***[Not adopted by HCD]*** A vented heating appliance designed or arranged to discharge heated air into a conditioned space or through a duct or ducts.

GRADE. ***[Not adopted by HCD]*** The finished ground level adjoining the building at all exterior walls.

GRADE. [For HCD 1] (Adjacent Ground Elevation) *is the lowest point of elevation of the finished surface of the ground, paving or sidewalk within the area between the building and the property line or, when the property line is more than 5 feet (1524 mm) from the building, between the building and a line 5 feet (1524 mm) from the building. See Health and Safety Code Section 19955.3 (d).*

GRADE, PIPING. ***[Not adopted by HCD]*** See “Slope.”

GROUND–SOURCE HEAT PUMP LOOP SYSTEM. ***[Not adopted by HCD]*** Piping buried in horizontal or vertical excavations or placed in a body of water for the purpose of transporting heat transfer liquid to and from a heat pump. Included in this definition are closed loop systems in which the liquid is recirculated and open loop systems in which the liquid is drawn from a well or other source.

HANGERS. ***[Not adopted by HCD]*** See “Supports.”

HEATING DEGREE DAYS (HDD). ***[Not adopted by HCD]*** The sum, on an annual basis, of the difference between 65_F (18_C) and the mean temperature for each day as determined from “NOAA Annual Degree Days to Selected Bases Derived from the 1960-1990 Normals” or other weather data sources acceptable to the code official.

HEAT PUMP. ***[Not adopted by HCD]*** An appliance having heating or heating/cooling capability and that uses refrigerants to extract heat from air, liquid or other sources.

HIGH–TEMPERATURE (H.T.) CHIMNEY. ***[Not adopted by HCD]*** A high temperature chimney complying with the requirements of UL 103. A Type H.T. chimney is identifiable by the markings "Type H.T." on each chimney pipe section.

HORIZONTAL BRANCH, DRAINAGE. ***[Not adopted by HCD]*** A drain pipe extending laterally from a soil or waste stack or building drain, that receives the discharge from one or more fixture drains.

HORIZONTAL PIPE. ***[Not adopted by HCD]*** Any pipe or fitting that makes an angle of less than 45 degrees (0.79 rad) with the horizontal.

HOT WATER. ***[Not adopted by HCD]*** Water at a temperature greater than or equal to 120_F (49_C).

HYDROGEN GENERATING APPLIANCE. ***[Not adopted by HCD]*** A self–contained package or factory–matched packages of integrated systems for generating gaseous hydrogen. Hydrogen generating appliances utilize electrolysis, reformation, chemical, or other processes to generate hydrogen.

INDIRECT WASTE PIPE. ***[Not adopted by HCD]*** A waste pipe that discharges into the drainage system through an air gap into a trap, fixture or receptor.

INDIVIDUAL SEWAGE DISPOSAL SYSTEM. ***[Not adopted by HCD]*** A system for disposal of sewage by means of a septic tank or mechanical treatment, designed for use apart from a public sewer to serve a single establishment or building.

INDIVIDUAL VENT. ***[Not adopted by HCD]*** A pipe installed to vent a single–fixture drain that connects with the vent system above or terminates independently outside the building.

INDIVIDUAL WATER SUPPLY. ***[Not adopted by HCD]*** A supply other than an approved public water supply that serves one or more families.

INTERNATIONAL BUILDING CODE (IBC). [For HCD 1] See Building Code.

LABEL. ***[Not adopted by HCD]*** An identification applied on a product by the manufacturer which contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that the representative sample of the product or material has been tested and evaluated by an approved agency. (See also "Manufacturer's designation" and "Mark.")

LABELED. [For HCD 1] *Labeled means equipment or materials to which has been attached a label, symbol or other identifying mark of an organization, approved by the department, that*

maintains a periodic inspection program of production of labeled products, installations, equipment, or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

LIMITED-DENSITY OWNER-BUILT DWELLING. [For HCD 1] *Any structure consisting of one or more habitable rooms intended or designed to be occupied by one family with facilities for living or sleeping, with use restricted to rural areas designated by local jurisdiction. Notwithstanding other sections of law, the applicable Section of Health and Safety Code Section 17958.2 is repeated here for clarification purposes.*

Section 17958.2*. Notwithstanding Section 17958, regulations of the department adopted for limited-density owner-built rural dwellings, which are codified in Article (commencing with Section 74) of Subchapter 1 of Chapter 1 of Title 25 of the California Administrative Code, shall not become operative within any city or county unless and until the governing body of the city or county makes an express finding that the application of those regulations within the city or county is reasonably necessary because of local conditions and the city or county files a copy of that finding with the department.*

In adopting ordinances or regulations for limited-density owner-built rural dwellings, a city or county may make such changes or modifications in the requirements contained in Article 8 (commencing with Section 74) of Subchapter 1 of Chapter 1 of Title 25 of the California Administrative Code as it determines are reasonably necessary because of local conditions, provided the city or county files a copy of such changes or modifications and the express findings for the changes or modifications with the department. No change or modification of that type shall become effective or operative for any purpose until the finding and the change or modification has been filed with the department.

LISTED AND LISTING. ***[Not adopted by HCD]*** Terms referring to equipment that is shown in a list published by an approved testing agency qualified and equipped for experimental testing and maintaining an adequate periodic inspection of current productions and whose listing states that the equipment complies with nationally recognized standards when installed in accordance with the manufacturer's installation instructions.

LISTED. [For HCD 1] *Health and Safety Code Section 17920 (h) is repeated here for clarity and reads as follows:*

Section 17920(h). *Listed means all products that appear in a list published by an approved testing or listing agency.*

LISTING AGENCY. [For HCD 1] *Health and Safety Code Section 17920 (l) is repeated here for clarity and reads as follows:*

Section 17920(i). *Listing agency means an agency approved by the department that is in the business of listing and labeling products, materials, equipment, and installations tested by an approved testing agency, and that maintains a periodic inspection program on current production of listed products, equipment, and installations, and that, at least annually, makes available a published report of these listings.*

MACERATING TOILET SYSTEMS. ***[Not adopted by HCD]*** A system comprised of a sump with macerating pump and with connections for a water closet and other plumbing fixtures, that is designed to accept, grind and pump wastes to an approved point of discharge.

MAIN. ***[Not adopted by HCD]*** The principal pipe artery to which branches may be connected.

MAIN SEWER. ***[Not adopted by HCD]*** See "Public sewer."

MANIFOLD WATER DISTRIBUTION SYSTEMS. ***[Not adopted by HCD]*** A fabricated piping arrangement in which a large supply main is fitted with multiple branches in close proximity in which water is distributed separately to fixtures from each branch.

MANUFACTURED HOME. ***[Not adopted by HCD]*** Manufactured home means a structure, transportable in one or more sections, which in the traveling mode is 8 body feet (2438 body mm) or more in width or 40 body feet (12 192 body mm) or more in length, or, when erected on site, is 320 square feet (30 m^2) or more, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air–conditioning and electrical systems contained therein; except that such term shall include any structure that meets all the requirements of this paragraph except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the secretary (HUD) and complies with the standards established under this title. For mobile homes built prior to June 15, 1976, a label certifying compliance to the Standard for Mobile Homes, NFPA 501, in effect at the time of manufacture is required. For the purpose of these provisions, a mobile home shall be considered a manufactured home.

MASS WALL. ***[Not adopted by HCD]*** Masonry or concrete walls having a mass greater than or equal to 30 pounds per square foot (146 kg/m^2), solid wood walls having a mass greater than or equal to20 pounds per square foot (98 kg/m^2), and any other walls having a heat capacity greater than or equal to 6 Btu/ft^2_F[266 J/(m^2?k)].

MECHANICAL DRAFT SYSTEM. ***[Not adopted by HCD]*** A venting system designed to remove flue or vent gases by mechanical means, that consists of an induced draft portion under non positive static pressure or a forced draft portion under positive static pressure.

Forced-draft venting system. A portion of a venting system using a fan or other mechanical means to cause the removal of flue or vent gases under positive static pressure.

Induced draft venting system. A portion of a venting system using a fan or other mechanical means to cause the removal of flue or vent gases under non positive static vent pressure.

Power venting system. A portion of a venting system using a fan or other mechanical means to cause the removal of flue or vent gases under positive static vent pressure.

MECHANICAL EXHAUST SYSTEM. ***[Not adopted by HCD]*** A system for removing air from a room or space by mechanical means.

NATURAL DRAFT SYSTEM. ***[Not adopted by HCD]*** A venting system designed to remove flue or vent gases under non positive static vent pressure entirely by natural draft.

MECHANICAL SYSTEM. ***[Not adopted by HCD]*** A system specifically addressed and regulated in this code and composed of components, devices, appliances and equipment.

NONCONDITIONED SPACE. ***[Not adopted by HCD]*** A space that is not a conditioned space by insulated walls, floors or ceilings.

OFFSET. ***[Not adopted by HCD]*** A combination of fittings that makes two changes in direction bringing one section of the pipe out of line but into a line parallel with the other section.

Passive Solar Energy Collector. [For HCD 1] *A passive solar energy collector uses architectural components, rather than mechanical components, to provide heating or cooling for a building interior.*

PELLET FUEL–BURNING APPLIANCE. ***[Not adopted by HCD]*** A closed combustion, vented appliance equipped with a fuel feed mechanism for burning processed pellets of solid fuel of a specified size and composition.

PELLET VENT. ***[Not adopted by HCD]*** A vent listed and labeled for use with a listed pellet fuel–burning appliance.

PLENUM. ***[Not adopted by HCD]*** A chamber that forms part of an air–circulation system other than the occupied space being conditioned.

PLUMBING. ***[Not adopted by HCD]*** For the purpose of this code, plumbing refers to those installations, repairs, maintenance and alterations regulated by Chapters 25 through 32.

PLUMBING APPLIANCE. ***[Not adopted by HCD]*** An energized household appliance with plumbing connections, such as a dishwasher, food–waste grinder, clothes washer or water heater.

PLUMBING APPURTENANCE. ***[Not adopted by HCD]*** A device or assembly that is an adjunct to the basic plumbing system and demands no additional water supply nor adds any discharge

load to the system. It is presumed that it performs some useful function in the operation, maintenance, servicing, economy or safety of the plumbing system. Examples include filters, relief valves and aerators.

PLUMBING FIXTURE. ***[Not adopted by HCD]*** A receptor or device that requires both a water–supply connection and a discharge to the drainage system, such as water closets, lavatories, bathtubs and sinks. Plumbing appliances as a special class of fixture are further defined.

PLUMBING SYSTEM. ***[Not adopted by HCD]*** Includes the water supply and distribution pipes, plumbing fixtures, supports and appurtenances; soil, waste and vent pipes; sanitary drains and building sewers to an approved point of disposal.

POLLUTION. ***[Not adopted by HCD]*** An impairment of the quality of the potable water to a degree that does not create a hazard to the public health but that does adversely and unreasonably affect the aesthetic qualities of such potable water for domestic use.

PORTABLE FUEL CELL APPLIANCE. ***[Not adopted by HCD]*** A fuel cell generator of electricity, which is not fixed in place. A portable fuel cell appliance utilizes a cord and plug connection to a grid-isolated load and has an integral fuel supply.

POTABLE WATER. ***[Not adopted by HCD]*** Water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming in bacteriological and chemical quality to the requirements of the public health authority having jurisdiction.

PRESSURE–RELIEF VALVE. ***[Not adopted by HCD]*** A pressure–actuated valve held closed by a spring or other means and designed to automatically relieve pressure at the pressure at which it is set.

PUBLIC SEWER. ***[Not adopted by HCD]*** A common sewer directly controlled by public authority.

PUBLIC WATER MAIN. ***[Not adopted by HCD]*** A water–supply pipe for public use controlled by public authority.

PUBLIC WAY. ***[Not adopted by HCD]*** Any street, alley or other parcel of land open to the outside air leading to a public street, which has been deeded, dedicated or otherwise permanently appropriated to the public for public use and that has a clear width and height of not less than 10 feet (3048 mm).

PURGE. ***[Not adopted by HCD]*** To clear of air, gas or other foreign substances.

QUICK–CLOSING VALVE. ***[Not adopted by HCD]*** A valve or faucet that closes automatically when released manually or controlled by mechanical means for fast–action closing.

R–VALUE, THERMAL RESISTANCE. ***[Not adopted by HCD]*** The inverse of the time rate of heat flow through a building thermal envelope element from one of its bounding surfaces to the other for a unit temperature difference between the two surfaces, under steady state conditions, per unit area (h@ft^2–F/Btu).

RECEPTOR. ***[Not adopted by HCD]*** A fixture or device that receives the discharge from indirect waste pipes.R202

REFRIGERANT. ***[Not adopted by HCD]*** A substance used to produce refrigeration by its expansion or evaporation.

REFRIGERANT COMPRESSOR. ***[Not adopted by HCD]*** A specific machine, with or without accessories, for compressing a given refrigerant vapor.

REFRIGERATING SYSTEM. ***[Not adopted by HCD]*** A combination of interconnected parts forming a closed circuit in which refrigerant is circulated for the purpose of extracting, then rejecting, heat. A direct refrigerating system is one in which the evaporator or condenser of the refrigerating system is in direct contact with the air or other substances to be cooled or heated. An indirect refrigerating system is one in which a secondary coolant cooled or heated by the refrigerating system is circulated to the air or other substance to be cooled or heated.

RELIEF VALVE, VACUUM. ***[Not adopted by HCD]*** A device to prevent excessive buildup of vacuum in a pressure vessel.

RESIDENTIAL BUILDING TYPE. ***[Not adopted by HCD]*** The type of residential building for determining building thermal envelope criteria. Detached one– and two-family dwellings are Type A-1. Townhouses are Type A-2.

RETURN AIR. ***[Not adopted by HCD]*** Air removed from an approved conditioned space or location and recirculated or exhausted.

RISER. ***[Not adopted by HCD]*** A water pipe that extends vertically one full story or more to convey water to branches or to a group of fixtures.

ROOM HEATER. ***[Not adopted by HCD]*** A freestanding heating appliance installed in the space being heated and not connected to ducts.

ROUGH–IN. ***[Not adopted by HCD]*** The installation of all parts of the plumbing system that must be completed prior to the installation of fixtures. This includes DWV, water supply and built–in fixture supports.

SANITARY SEWER. ***[Not adopted by HCD]*** A sewer that carries sewage and excludes storm, surface and groundwater.

SEPTIC TANK. ***[Not adopted by HCD]*** A water–tight receptor that receives the discharge of a building sanitary drainage system and is constructed so as to separate solids from the liquid, digest organic matter through a period of detention, and allow the liquids to discharge into the soil outside of the tank through a system of open joint or perforated piping or a seepage pit.

SEWAGE. ***[Not adopted by HCD]*** Any liquid waste containing animal matter, vegetable matter or other impurity in suspension or solution.

SEWAGE PUMP. ***[Not adopted by HCD]*** A permanently installed mechanical device for removing sewage or liquid waste from a sump.

SIDE VENT. ***[Not adopted by HCD]*** A vent connecting to the drain pipe through a fitting at an angle less than 45 degrees (0.79 rad) to the horizontal.

SLIP JOINT. ***[Not adopted by HCD]*** A mechanical–type joint used primarily on fixture traps. The joint tightness is obtained by compressing a friction–type washer such as rubber, nylon, neoprene, lead or special packing material against the pipe by the tightening of a (slip) nut.

SLOPE. ***[Not adopted by HCD]*** The fall (pitch) of a line of pipe in reference to a horizontal plane. In drainage, the slope is expressed as the fall in units vertical per units horizontal (percent) for a length of pipe.

SOIL STACK OR PIPE. ***[Not adopted by HCD]*** *A pipe that conveys sewage containing fecal material.R202*

SOLAR HEAT GAIN COEFFICIENT (SHGC). ***[Not adopted by HCD]*** *The solar heat gain through a fenestration or glazing assembly relative to the incident solar radiation (Btu/h@ft^2@_F).*

STACK. ***[Not adopted by HCD]*** *Any main vertical DWV line, including offsets, that extends one or more stories as directly as possible to its vent terminal.*

STACK VENT. ***[Not adopted by HCD]*** *The extension of soil or waste stack above the highest horizontal drain connected.*

STACK VENTING. ***[Not adopted by HCD]*** *A method of venting a fixture or fixtures through the soil or waste stack without individual fixture vents.*

STANDARD TRUSS. ***[Not adopted by HCD]*** *Any construction that does not permit the roof/ceiling insulation to achieve the required R-value over the exterior walls.*

STATIONARY FUEL CELL POWER PLANT. ***[Not adopted by HCD]*** A self–contained package or factory–matched packages which constitute an automatically–operated assembly of

integrated systems for generating useful electrical energy and recoverable thermal energy that is permanently connected and fixed in place.

STORM SEWER, DRAIN. ***[Not adopted by HCD]*** *A pipe used for conveying rainwater, surface water, condensate, cooling water or similar liquid wastes.*

SUMP. ***[Not adopted by HCD]*** *A tank or pit that receives sewage or waste, located below the normal grade of the gravity system and that must be emptied by mechanical means.*

SUMP PUMP. ***[Not adopted by HCD]*** *A pump installed to empty a sump. The pump is chosen to handle the type of material to be pumped—either clear water waste or soil–type sewage. The pump is selected for the specific head and volume of the load and is usually operated by level controllers.*

SUPPLY AIR. ***[Not adopted by HCD]*** *Air delivered to a conditioned space through ducts or plenums from the heat exchanger of a heating, cooling or ventilating system.*

SUPPORTS. ***[Not adopted by HCD]*** *Devices for supporting, hanging and securing pipes, fixtures and equipment.*

SWEEP. ***[Not adopted by HCD]*** *A drainage fitting designed to provide a change in direction of a drain pipe of less than the angle specified by the amount necessary to establish the desired slope of the line. Sweeps provide a longer turning radius than bends and a less turbulent flow pattern (see "Bend" and "Elbow").*

TEMPERATURE– AND PRESSURE–RELIEF (T AND P) VALVE. ***[Not adopted by HCD]*** *A combination relief valve designed to function as both a temperature–relief and pressure–relief valve.*

TEMPERATURE–RELIEF VALVE. ***[Not adopted by HCD]*** *A temperature–actuated valve designed to discharge automatically at the temperature at which it is set.*

THERMAL ISOLATION. ***[Not adopted by HCD]*** A separation of conditioned spaces, between a sunroom addition and a dwelling unit, consisting of existing or new wall(s), doors, and/or windows.

THERMAL RESISTANCE, R-VALUE. ***[Not adopted by HCD]*** *The inverse of the time rate of heat flow through a body from one of its bounding surfaces to the other for a unit temperature difference between the two surfaces, under steady state conditions, per unit area (h@ft^2@_F/Btu).*

THERMAL TRANSMITTANCE, U-FACTOR. ***[Not adopted by HCD]*** *The coefficient of heat transmission (air to air) through a building envelope component or assembly, equal to the time*

rate of heat flow per unit area and unit temperature difference between the warm side and cold side air films (Btu/h@ft^2 @^{o}F).

Townhouse [For HCD 1 and HCD 1/AC]
TRAP. ***[Not adopted by HCD]*** A fitting, either separate or built into a fixture, that provides a liquid seal to prevent the emission of sewer gases without materially affecting the flow of sewage or waste water through it.

TRAP ARM. ***[Not adopted by HCD]*** That portion of a fixture drain between a trap weir and the vent fitting.
TRAP PRIMER. ***[Not adopted by HCD]*** A device or system of piping to maintain a water seal in a trap, typically installed where infrequent use of the trap would result in evaporation of the trap seal, such as floor drains.

TRAP SEAL. ***[Not adopted by HCD]*** The trap seal is the maximum vertical depth of liquid that a trap will retain, measured between the crown weir and the top of the dip of the trap.

TYPE L VENT. ***[Not adopted by HCD]*** A listed and labeled vent conforming to UL 641 for venting oil–burning appliances listed for use with Type L vents or with listed gas appliances.

U–FACTOR, THERMAL TRANSMITTANCE. ***[Not adopted by HCD]*** The coefficient of heat transmission (air to air) through a building envelope component or assembly, equal to the time rate of heat flow per unit area and unit temperature difference between the warm side and cold side air films (Btu/h@ft^2 _F).

UNCONFINED SPACE. ***[Not adopted by HCD]*** A space having a volume not less than 50 cubic feet per 1,000 Btu/h (4.8 m^3/kW) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed, through openings not furnished with doors, are considered a part of the unconfined space.

VACUUM BREAKERS. ***[Not adopted by HCD]*** A device which prevents back siphonage of water by admitting atmospheric pressure through ports to the discharge side of the device.

VENT. ***[Not adopted by HCD]*** A passageway for conveying flue gases from fuel–fired appliances, or their vent connectors, to the outside atmosphere.

VENT COLLAR. ***[Not adopted by HCD]*** See “Flue collar.”

VENT CONNECTOR. ***[Not adopted by HCD]*** That portion of a venting system which connects the flue collar or draft hood of an appliance to a vent.

VENT DAMPER DEVICE, AUTOMATIC. ***[Not adopted by HCD]*** A device intended for installation in the venting system, in the outlet of an individual, automatically operated fuel burning appliance and that is designed to open the venting system automatically when the

appliance is in operation and to close off the venting system automatically when the appliance is in a standby or shutdown condition.
VENT GASES. ***[Not adopted by HCD]*** Products of combustion from fuel–burning appliances, plus excess air and dilution air, in the venting system above the draft hood or draft regulator.

VENT STACK. ***[Not adopted by HCD]*** A vertical vent pipe installed to provide circulation of air to and from the drainage system and which extends through one or more stories.

VENT SYSTEM. ***[Not adopted by HCD]*** Piping installed to equalize pneumatic pressure in a drainage system to prevent trap seal loss or blow–back due to siphonage or back pressure.

VENTILATION. ***[Not adopted by HCD]*** The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

VENTILATION. ***[Not adopted by HCD]*** The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

VENTING. ***[Not adopted by HCD]*** Removal of combustion products to the outdoors.

VENTING SYSTEM. ***[Not adopted by HCD]*** A continuous open passageway from the flue collar of an appliance to the outside atmosphere for the purpose of removing flue or vent gases. A venting system is usually composed of a vent or a chimney and vent connector, if used, assembled to form the open passageway.

VERTICAL PIPE. ***[Not adopted by HCD]*** Any pipe or fitting that makes an angle of 45 degrees (0.79 rad) or more with the horizontal.

Load–bearing wall is a wall supporting any vertical load in addition to its own weight.
Nonbearing wall is a wall which does not support vertical loads other than its own weight.

WASTE. ***[Not adopted by HCD]*** Liquid–borne waste that is free of fecal matter.

WASTE PIPE OR STACK. ***[Not adopted by HCD]*** Piping that conveys only liquid sewage not containing fecal material.

WATER–DISTRIBUTION SYSTEM. ***[Not adopted by HCD]*** Piping which conveys water from the service to the plumbing fixtures, appliances , appurtenances, equipment, devices or other systems served, including fittings and control valves.

WATER HEATER. ***[Not adopted by HCD]*** Any heating appliance or equipment that heats potable water and supplies such water to the potable hot water distribution system.

WATER MAIN. ***[Not adopted by HCD]*** A water–supply pipe for public use.

WATER OUTLET. ***[Not adopted by HCD]*** A valved discharge opening, including a hose bibb, through which water is removed from the potable water system supplying water to a plumbing fixture or plumbing appliance that requires either an air gap or backflow prevention device for protection of the supply system.

WATER–SERVICE PIPE. ***[Not adopted by HCD]*** The outside pipe from the water main or other source of potable water supply to the water–distribution system inside the building, terminating at the service valve.

WATER–SUPPLY SYSTEM. ***[Not adopted by HCD]*** The water–service pipe, thewater–distributing pipes and the necessary connecting pipes, fittings, control valves and all appurtenances in or adjacent to the building or premises.

WET VENT. ***[Not adopted by HCD]*** A vent that also receives the discharge of wastes from other fixtures.

CHAPTER 3
BUILDING PLANNING

Note: Adopt the entire chapter as amended.

MATRIX ADOPTION TABLE FOOTNOTES: [For HCD 1]
1. *The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).*
2. *This state agency adopts the entire chapter as amended, except for those sections indicated by the following symbol: †.*

R301.1 Design. Buildings and structures, and all parts thereof, shall be constructed to safely support all loads, including dead loads, live loads, roof loads, flood loads, snow loads, wind loads and seismic loads as prescribed by this code. The construction of buildings and structures shall result in a system that provides a complete load path capable of transferring all loads from their point of origin through the load–resisting elements to the foundation. When a building of otherwise conventional construction contains structural elements that exceed the limits of Section R301, those elements shall be designed in accordance with accepted engineering practice.

> ***EXCEPTION [For HCD 1]:*** *Limited-density owner-built rural dwellings may be of any type of construction which will provide for a sound structural condition. Structural hazards which result in an unsound condition and which may constitute a substandard building include those delineated by Section 17920.3 of the Health and Safety Code.*

R301.1.3.1 [For HCD 1] California Licensed Architect or Registered Engineer *If any portion of any structure deviates from substantial compliance with conventional framing requirements for woodframe construction found in this code, the Building Official shall require the construction documents to be approved and stamped by a California Licensed Architect or Registered Engineer. Notwithstanding other sections of law, the law establishing these provisions is found in Business and Professions Code Section 6737.1.*

TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND SPEED [e] (mph)	SEISMIC DESIGN CATEGORY [g]	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP [f]	ICE SHIELD UNDER-LAYMENT REQUIRED [i]	FLOOD HAZARDS [h]	AIR FREEZING INDEX [j]	MEAN ANNUAL TEMP [k]
			Weathering[a]	Frost line depth [b]	Termite [c]	Decay [d]					

For SI: 1 pound per square foot = 0.0479 kN/m.0^2, 1 mile per hour = 1.609 km/h.
a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
c. The jurisdiction shall fill in this part of the table with "very heavy," "moderate to heavy," "slight to moderate," or "none to slight" in accordance with Figure R301.2(6) depending on whether there has been a history of local damage.
d. The jurisdiction shall fill in this part of the table with "moderate to severe," "slight to moderate," or "none to slight" in accordance with Figure R301.2(7) depending on whether there has been a history of local damage.
e. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)]. Wind exposure category shall be determined on a site–specific basis in accordance with Section R301.2.1.4.
f. ~~The outdoor design dry-bulb temperature shall be selected from the columns of 97$^1/_2$–percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures~~ *[For HCD1] Temperatures* shall be permitted to reflect local climates or local weather experience as determined by the building official.
g. The jurisdiction shall fill in this part of the table with the Seismic Design Category determined from Section R301.2.2.2.
h. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the currently effective FIRM and FBFM, or other flood hazard map adopted by the community, as may be amended.

R302.1 Exterior walls. Exterior walls with a fire separation distance less than 3 feet (914 mm) shall have not less than a one–hour fire–resistive rating with exposure from both sides. Projections shall not extend to a point closer than 2 feet (610 mm) from the line used to determine the fire separation distance.

Exception: Detached garages …

Projections extending into the fire separation distance shall have not less than one–hour fire–resistive construction on the underside. The above provisions shall not apply to walls which are perpendicular to the line used to determine the fire separation distance.

> ***[Not adopted by HCD]*** **Exception:** Tool and storage sheds, playhouses and similar structures exempted from permits by Section R105.2 are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.

R303.1 Habitable rooms. All habitable rooms shall be pro–vided with aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.

> **Exceptions:**
> 1. The glazed areas need not be openable where the opening is not required by Section R310 and an approved mechanical ventilation system is provided capable of producing 0.35 air change per hour in the room or a whole–house mechanical ventilation system is installed capable of supplying outdoor ventilation air of 15 cubic feet per minute (cfm) (7.08 L/s) per occupant computed on the basis of two occupants for the first bedroom and one occupant for each additional bedroom.
>
> 2. The glazed areas need not be provided in rooms where Exception 1 above is satisfied and artificial light is provided capable of producing an average illumination of 6 footcandles (6.46 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.
>
> *3. **[For HCD 1]** The windows, doors, louvers or other approved closeable openings not required by Section R310 may open into a passive solar energy collector for light and ventilation required by this section. When this occurs the required percentages of natural light and ventilation in the passive solar energy collector shall increase to compensate for covered openings.*

R303.7 ***[For HCD 1]*** **Required glazed openings.** Required glazed openings shall open directly onto a street or public alley, or a yard or court located on the same lot as the building.

> ***Exception:*** *Glazed openings covered by a passive solar energy collector in accordance with Section 303.1, Exception 3.*

R303.6.1 [For HCD 1] Passive solar energy collectors. *When a passive solar energy collector is designed as a conditioned area it shall comply with the California Energy Code, Title 24, Part 6. Non-conditioned passive solar energy collectors are exempt from Title 24, Part 6.*

R304.2.1 [For HCD 1] Sleeping Room Floor Area*. Where more than two persons occupy a room used for sleeping purposes, the required floor area shall be increased at the rate of 50 square feet (4.65 m²) for each occupant in excess of two.*

R305.1 ***[For HCD 1]*** **Minimum height.** Habitable rooms, hallways, corridors, bathrooms, toilet rooms, laundry rooms and basements shall have a ceiling height of not less than 7 feet (2134 mm). The required height shall be measured from the finish floor to the lowest projection from the ceiling.

Exceptions:

1. Beams and girders spaced not less than 4 feet (1219 mm) on center may project not more than 6 inches (152 mm) below the required ceiling height.
2. Ceilings in basements without habitable spaces may project to within 6 feet, 8 inches (2032 mm) of the finish floor; and beams, girders, ducts or other obstructions may project to within 6 feet, 4 inches (1931 mm) of the finished floor.
3. Not more than 50 percent of the required floor area of a room or space is permitted to have a sloped ceiling less than 7 feet (2134 mm) in height with no portion of the required floor area less than 5 feet (1524 mm) in height.
4. ***[Not Adopted by HCD]*** Bathrooms shall have a minimum ceiling height of 6 feet 8 inches.

R314 ***[Not Adopted by HCD 1] Foam Plastic (see HSC 17920.9)***

R317.2 Townhouses. Each…

Exception: A common 2-hour fire-resistance-rated wall is permitted… Electrical installations shall be installed in accordance with ***[not for HCD]*** chapters 33 through 42 ***[For HCD 1]*** *the California Electrical Code, Title 24, Part 3*. Penetrations of electrical outlet boxes shall be in accordance with Section R317.3.

R322.1 Scope. ***[Not Adopted by HCD 1]*** Where there are four or more dwelling units or sleeping units in a single structure, the provisions of chapter 11 of the *International Building Code* for group R-3 shall apply.

R322.1.1 Scope. [For HCD 1] *Where there are three or more apartment dwelling units or four or more condominium units, the provisions of chapter 11A of the California Building Code, Title 24, Part 2 shall apply. Covered Multifamily Dwellings include dwelling units listed in Section 101.17.9. Dwelling units within a single structure separated by firewalls do not constitute separate buildings.*

R323.1.5*[For HCD 1]* Protection of mechanical and electrical systems. Electrical systems, equipment and components, and heating, ventilating, air conditioning and plumbing appliances, plumbing fixtures, duct systems and other service equipment shall be located at or above the design flood elevation. If replaced as part…….

> **Exception:** Electrical systems, equipment and components, and heating, ventilating, air conditioning and plumbing appliances, plumbing fixtures, duct systems and other service equipment are permitted to be located below the design flood elevation provided that they are designed... in compliance with the flood-resistant construction requirements of the *International Building Code.* Electrical wiring systems are permitted to be located below the design flood elevation provided they conform to the provisions of the ***[not for HCD]*** electrical part of this code ***[For HCD 1]*** *California Electrical Code, Title 24, Part 5* for wet locations.

R323.1.6 *[For HCD 1]* Protection of water supply and sanitary sewage systems. New and replacement water supply systems shall be designed to minimize infiltration of flood waters into the systems in accordance with the plumbing provisions of this code. New and replacement sanitary sewage systems shall be designed to minimize infiltration of floodwaters into systems and discharges from systems into floodwaters in accordance with the plumbing provisions of this code and Chapter 3 of the ***[not for HCD]*** *International Private Sewage Disposal Code* ***[For HCD 1]*** *California Plumbing Code, Title 24, Part 5*..

R323.1.8 *[Not Adopted by HCD]* Manufactured housing. New or replacement manufactured housing shall be elevated in accordance with Section R327.2 and the anchor and tie-down requirements of Sections AE604 and AE605 of Appendix E shall apply. The foundation and anchorage of manufactured housing to be located in identified flood ways as established in Table R301.2(1) shall be designed and constructed in accordance with the applicable provisions in the *International Building Code.*

CHAPTER 4
FOUNDATIONS

Note: Adopt the entire chapter as amended.

MATRIX ADOPTION TABLE FOOTNOTES: [For HCD 1]
1. *The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).*
2. This state agency adopts the entire chapter as amended, except for those sections indicated by the following symbol: †.

402.2.1 [For HCD 1] CELLULAR CONCRETE.

402.2.1.1 [For HCD 1] Use and application. *Controlled-density cellular concrete, when used or applied, shall be in accordance with the use of materials Bulletin No. 65 of the Federal Housing Administration, United States Department of Housing and Urban Development.*

EXCEPTIONS:

1. *Regardless of the provisions of Subsections 3.2, 3.3, 3.4 and 3.6 in Section 3 relating to proportioning, mixing and testing in Bulletin No. 65, the following shall apply to these regulations:*

   1.1 Field-control weighings for control of the wet-unit weight shall be made. The design wet-unit weight for field control of the concrete shall be based on previously established data for the relation between the wet-unit weight and the air-dry unit weight at 28 days for the mix being placed. Field-control weighings for determining the wet-unit weight shall be made at the mixer discharge and at the point of deposit.

   Make one pair of weighings per batch for batch-type mixers unless equipment is provided with scales allowing the operator to adequately weigh materials. For continuous weight- instrumented batch mixers, make one pair of weighings per 10 cubic yards (7.65 m3). The gain in unit weight between the mixer discharge and point of deposit shall not exceed 5 percent. The wet-unit weight at the point of deposit of the concrete shall not exceed plus 5 percent of the design wet-unit weight. A variation exceeding plus 5 percent of the design wet-unit weight shall require a modification of the mix proportions, a change of materials or a change in the mixing procedure.

   1.2 When tests are required by the enforcing agency, they shall be performed in the following manner: Two test cylinders, for compressive strength tests, shall be made for each 8,000 square feet (743 m2) of surface area placed. A minimum of two test cylinders shall be made each day. Each strength test result shall be the

average of two cylinders from the same sample tested at 28 days or at a specified earlier age.

1.3 The minimum air-dry density shall be 90 pounds per cubic foot (1440 kg/m3). The minimum design compressive strength shall be 1,000 psi (6890 kPa) when the curing procedure specified herein is applied. The minimum design compressive strength shall be 1,250 psi (8619 kPa) if the slab is placed in a covered area of a building and a specified curing medium is not applied. The specified design compressive strength shall be increased 20 percent when the specified strength is greater than 1,000 psi (6890 kPa) and the slab is placed in a covered area of a building and a specified curing medium is not applied.

1.4 The cellular concrete shall be sampled at the point of deposit in accordance with the applicable procedures of ASTM C 172, Sampling Fresh Concrete. Cylinder molds shall be either 3 inches by 6 inches (76 mm by 152 mm) or 6 inches by 12 inches (152 mm by 305 mm). Lightly tap the sides of the mold with a rubber hammer while filling the mold instead of rodding the mix. Moist cure the specimens for seven days at 73.4°F (40.8°C) plus or minus 3°F (1.7°C). At the age of seven days, remove the specimens from the moist condition and store in a temperature of 73.4°F (40.8°C) plus or minus 3°F (1.7°C) and a relative humidity of 50 plus or minus 10 percent for 21 days, remove and air dry until the time of test at 28 days. The compressive strength test shall be in accordance with ASTM C 39, Compressive Strength of Cylindrical Concrete Specimens. Determine the air-dry unit weight at 28 days.

2. Regardless of the provisions of Subsections 4.1 and 4.2 in Section 4, relating to placing, finishing and curing in Bulletin No. 65, the following shall apply to these regulations:

2.1 The concrete shall be placed, finished and cured to produce a level, smooth surface. The concrete shall be placed in a single layer to a minimum thickness of 11/2 inches (38 mm). The deviation from a plan shall not exceed 1/4 inch (6 mm) in any 10 feet (3048 mm). The final finish of the concrete shall be suitable for the application of the specified wear- resistant covering. Cracks wider than 1/8 inch (3 mm) shall be repaired.

2.2 Install a water-resistant membrane between wood or plywood subfloors and the cellular concrete to prevent leakage of the concrete and wetting of the subfloor. The membrane shall consist of waterproof paper or plastic sheets conforming to ASTM C 171, Sheet Materials for Curing Concrete, or Type 15 roofing felt conforming to ASTM D 226, D 250 or D 227, or Federal Specification UUB790, Building Paper Vegetable Fiber: (Kraft, Waterproofed, Water Repellent and Fire-resistant) Type 1, Grade B. The sheets shall be securely fastened to the subfloor.

2.3 Regardless of the provision of Subsections 6.1 and 6.2 in Section 6, relating to applicator qualifications and warranty in Bulletin No. 65, these subsections are omitted from these regulations

R408.3 Access. Access shall be provided to all under-floor spaces. Access openings through the floor shall be a minimum of18 inches by 24 inches (457 mm by 610 mm). Openings through the perimeter wall shall be…. ***[not for HCD]*** See Section M1305.1.4 ***[For HCD 1]*** *California Mechanical Code, Title 24, Part 4* for access requirements where mechanical equipment is located under floors.

CHAPTER 5
FLOORS

Note: Adopt the entire chapter as amended.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]
The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).

R502.1 Identification.

***EXCEPTION [For HCD 1]**: For limited-density owner-built rural dwellings, owner-produced or used materials and appliances may be utilized unless found not to be of sufficient strength or durability to perform the intended function; owner-produced or used lumber, or shakes and shingles may be utilized unless found to contain dry rot, excessive splitting, or other defects obviously rendering the material unfit in strength or durability for the intended purpose.*

CHAPTER 6
WALL CONSTRUCTION

Note: Adopt the entire chapter as amended.

MATRIX ADOPTION TABLE FOOTNOTES: [For HCD 1]
***1.** The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).*
***2.** This state agency adopts the entire chapter as amended, except for those sections indicated by the following symbol: †.*

R602.1 Identification.

***EXCEPTION [For HCD 1]**: For limited-density owner-built rural dwellings, owner-produced or used materials and appliances may be utilized unless found not to be of sufficient strength or durability to perform the intended function; owner-produced or used lumber, or shakes and shingles may be utilized unless found to contain dry rot, excessive splitting, or other defects obviously rendering the material unfit in strength or durability for the intended purpose.*

CHAPTER 7
WALL COVERING

Note: Adopt the entire chapter without amendments.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]
The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).

CHAPTER 8
ROOF - CEILING CONSTRUCTION

Note: Adopt the entire chapter as amended.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]
The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).

R802.1 Identification.

***EXCEPTION [For HCD 1]**: For limited-density owner-built rural dwellings, owner-produced or used materials and appliances may be utilized unless found not to be of sufficient strength or durability to perform the intended function; owner-produced or used lumber, or shakes and shingles may be utilized unless found to contain dry rot, excessive splitting, or other defects obviously rendering the material unfit in strength or durability for the intended purpose.*

CHAPTER 9

ROOF ASSEMBLIES

Note: Adopt the entire chapter as amended.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]
The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).

R903.4.1 Overflow drains and scuppers. Where roof drains are required, overflow drains having the same size as the roof drains shall be installed with the inlet flow line located 2 inches (51 mm) above the low point of the roof, or overflow scuppers having three times the size of the roof drains and having a minimum opening height of 4 inches (102 mm) may be installed in the adjacent parapet walls with the inlet flow located 2 inches (51 mm) above the low point of the adjacent roof. The installation and sizing of overflow drains, leaders and conductors shall comply with the ***[not for HCD]*** *International Plumbing Code* ***[For HCD 1]*** *California Plumbing Code, Title 24, Part 5*.

CHAPTER 10
CHIMNEYS AND FIREPLACES

Note: Adopt the entire chapter as amended.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]

Section R1002 Factory-Built Chimneys ***[Not Adopted by HCD]***

Section R1002 Factory-Built Fireplaces ***[Not Adopted by HCD]***

Section R1005 Exterior Air Supply ***[Not Adopted by HCD]***

CHAPTER 11
ENERGY EFFICIENCY

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ENERGY CODE, TITLE 24, PART 6.

CHAPTER 12
MECHANICAL ADMINISTRATION

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 13
GENERAL MECHANICAL SYSTEM REQUIREMENTS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 14
HEATING AND COOLING EQUIPMENT

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 15
EXHAUST SYSTEMS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 16
DUCT SYSTEMS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 17
COMBUSTION AIR

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 18
CHIMNEYS AND VENTS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 19
SPECIAL FUEL – BURNING EQUIPMENT

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 20
BOILERS/WATER HEATERS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 21
HYDRONIC PIPING

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 22
SPECIAL PIPING AND STORAGE SYSTEMS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 23
SOLAR SYSTEMS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 24
FUEL GAS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

CHAPTER 25
PLUMBING ADMINISTRATION

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA PLUMBING CODE, TITLE 24, PART 5.

CHAPTER 26
GENERAL PLUMBING REQUIREMENTS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA PLUMBING CODE, TITLE 24, PART 5.

CHAPTER 27
PLUMBING FIXTURES

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA PLUMBING CODE, TITLE 24, PART 5.

CHAPTER 28
WATER HEATERS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA PLUMBING CODE, TITLE 24, PART 5.

CHAPTER 29
WATER SUPPLY AND DISTRIBUTION

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA PLUMBING CODE, TITLE 24, PART 5.

CHAPTER 30
SANITARY DRAINAGE

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA PLUMBING CODE, TITLE 24, PART 5.

CHAPTER 31
VENTS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA PLUMBING CODE, TITLE 24, PART 5.

CHAPTER 32
TRAPS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA PLUMBING CODE, TITLE 24, PART 5.

CHAPTER 33
ELECTRICAL REQUIREMENTS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 34
ELECTRICAL DEFINITIONS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 35
SERVICES

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 36
BRANCH CIRCUIT AND FEEDER REQUIREMENTS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 37
WIRING METHODS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 38
POWER AND LIGHTING DISTRIBUTION

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 39
DEVICES AND LIGHTING FIXTURES

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 40
APPLIANCE INSTALLATION

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 41
SWIMMING POOLS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 42
CLASS 2 REMOTE – CONTROL, SIGNALING AND POWER – LIMITED CIRCUITS

Note: This chapter is not adopted.

CHAPTER NOTE: THIS CHAPTER IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3.

CHAPTER 43
REFERENCED STANDARDS

Note: This chapter is adopted as amended.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]
The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).

This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standard shall be as specified in Section 102.4. ***[For HCD 1]*** *Notwithstanding California laws and regulations, these referenced standards shall be applicable only to those sections that are adopted.*

APPENDIX A (IFGS)
SIZING AND CAPACITIES OF GAS PIPING

Note: This appendix is not adopted.

APPENDIX NOTE: THIS APPENDIX IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

APPENDIX B (IFGS)
SIZING OF VENTING SYSTEMS SERVING APPLIANCES EQUIPPED WITH DRAFT HOODS, CATEGORY I APPLIANCES, AND APPLIANCES LISTED FOR USE AND TYPE B VENTS

Note: This appendix is not adopted.

APPENDIX NOTE: THIS APPENDIX IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

APPENDIX C (IFGS)
EXIT TERMINALS OF MECHANICAL DRAFT AND DIRECT – VENT VENTING SYSTEMS

Note: This appendix is not adopted.

APPENDIX NOTE: THIS APPENDIX IS NOT ADOPTED BY HCD. SEE THE CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4.

APPENDIX D (IFGS)
RECOMMENDED PROCEDURE FOR SAFETY INSPECTION OF AN EXISTING APPLIANCE INSTALLATION

Note: This appendix is not adopted.

APPENDIX E
MANUFACTURED HOUSING USED AS DWELLINGS

Note: This appendix is not adopted.

APPENDIX NOTE: THIS APPENDIX IS NOT ADOPTED BY HCD. SEE CALIFORNIA CODE OF REGULATIONS, TITLE 25, PARTS 2 AND 2.1.

APPENDIX F
RADON CONTROL METHOD

Note: This appendix is not adopted.

APPENDIX G
SWIMMING POOLS, SPAS, AND HOT TUBS

Note: This appendix is not adopted.

APPENDIX H
PATIO COVERS

Note: Adopt the entire appendix without amendments.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]
The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).

APPENDIX I
PRIVATE SEWAGE DISPOSAL

Note: This appendix is not adopted.

APPENDIX J
EXISTING BUILDINGS AND STRUCTURES

Note: Adopt only those sections that are listed below.

AJ101.1.1 [For HCD 1 & HCD 1/AC] Scope. *The provisions and statutes of Section 104.2.8.2 shall control moved buildings and the maintenance, alteration, repair, addition or change of occupancy to existing Group R occupancies, or buildings and structures accessory thereto as provided in Section 101.17.9.*

AJ101.1.2 [For HCD 2] Scope. *The provisions and statutes of Section 104.2.1.1 shall control moved buildings and maintenance, alteration, repair, addition, or change of occupancy to existing buildings and accessory structures in mobilehome parks or special occupancy parks as provided in Section 101.17.10.*

APPENDIX K
SOUND TRANSMISSION

Note: Adopt the entire appendix as amended.

MATRIX ADOPTION TABLE FOOTNOTE: [For HCD 1]
The ◆ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 (See Section R102.1.9).

AK101A [For HCD 1] General.

AK101A.1 [ForHCD1] Purpose and scope. The purpose of this section is to establish uniform minimum noise insulation performance standards to protect persons within new hotels, motels, dormitories, apartment houses and dwellings other than detached single-family dwellings from the effects of excessive noise, including, but not limited to, hearing loss or impairment and interference with speech and sleep. This section shall apply to all buildings for which applications for permits were made subsequent to August 22, 1974.

AK101A.1.1 Definitions. The following special definitions shall apply to this section:

SOUND TRANSMISSION CLASS (STC) is a single-number rating used to compare walls, floor-ceiling assemblies and doors for their sound-insulating properties with respect to speech and small household appliance noise. The STC is derived from laboratory measurements of sound transmission loss across a series of16 test bands. Laboratory STC ratings should be used to the greatest extent possible in determining that the design complies with this section.

FIELD SOUND TRANSMISSION CLASS (FSTC) is a single-number rating similar to STC, except that the transmission loss values used to derive the FSTC are measured in the field. All sound transmitted from the source room to the receiving room is assumed to be through the separating wall or floor-ceiling assembly. This section does not require determination of the FSTC, and field measured values of noise reduction should not be reported as transmission loss.

IMPACT INSULATION CLASS (IIC) is a single-number rating used to compare the effectiveness of floor-ceiling assemblies in providing reduction of impact-generated sounds such as footsteps. The IIC is derived from laboratory measurements of impact sound pressure level across a series of 16 test bands using a standardized tapping machine. Laboratory IIC ratings should be used to the greatest extent possible in determining that the design complies with this section.

FIELD IMPACT INSULATION CLASS (FIIC) is a single-number rating similar to the IIC, except that the impact sound pressure levels are measured in the field.

NOISE ISOLATION CLASS (NIC) is a single-number rating derived from measured values of noise reduction between two enclosed spaces that are connected by one or more paths. The NIC is not adjusted or normalized to a standard reverberation time.

NORMALIZED NOISE ISOLATION CLASS (NNIC) is a single-number rating similar to the NIC, except that the measured noise reduction values are normalized to a reverberation time of one-half second.

NORMALIZED A-WEIGHTED SOUND LEVEL DIFFER-

ENCE (Dn) means, for a specified source room sound spectrum, Dn is the difference, in decibels, between the average sound levels produced in two rooms after adjustment to the expected acoustical conditions when the receiving room under test is normally furnished.

DAY-NIGHT AVERAGE SOUND LEVEL (Ldn) is the A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 db adjustment added to sound levels occurring during nighttime hours (10 p.m. to 7 a.m.).

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) is a metric similar to the Ldn, except that a 5 db adjustment is added to the equivalent continuous sound exposure level for evening hours (7 p.m. to 10 p.m.) in addition to the 10 db nighttime adjustment used in the Ldn.

AK101A.1.2 [For HCD 1] Relevant standards. The current edition of the following standards is generally applicable for determining compliance with this section.
Copies may be obtained from the American Society for Testing and Materials (ASTM) at 1916 Race Street, Philadelphia, Pennsylvania 19103.

ASTM C 634, Standard Definitions of Terms Relating to Environmental Acoustics.

ASTME90, StandardMethod for LaboratoryMeasurement of Airborne Sound Transmission Loss of Building Partitions.

ASTM E 336, Standard TestMethod forMeasurement of Airborne Sound Insulation in Buildings.

ASTM E 413, Standard Classification for Determination of Sound Transmission Class.

ASTM E 492, StandardMethod of LaboratoryMeasurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine.

ASTM E 497, Standard Recommended Practice for Installation of Fixed Partitions of Light Frame Type for the Purpose of Conserving Their Sound Insulation Efficiency.

ASTM E 597, Recommended Practice for Determining A Single-Number Rating of Airborne Sound Isolation in Multiunit Building Specifications.

ASTM E 966, Standard Guide for Field Measurement of Airborne Sound Insulation of Building Facades and Facade Elements.

ASTM E 989, StandardClassification for Determination of Impact Insulation Class (IIC).

ASTM E 1007, Standard Test Method for Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures.

ASTM E 1014, Standard Guide for Measurement of Outdoor A-Weighted Sound Levels.

AK101A.1.3 [For HCD 1] Complaints. Where a complaint as to noncompliance with this chapter requires a field test, the complainant shall post a bond or adequate funds in escrow for the cost of said testing. Such costs shall be chargeable to the complainant if the field tests show compliance with this chapter. If the tests show noncompliance, testing costs shall be borne by the owner or builder.

AK101A.1.4 Local modification. The governing body of any city or city and county may, by ordinance, adopt changes or modifications to the requirements of this section as set forth in Section 17922.7 of the Health and Safety Code.

AK101A.1.5 Interdwelling sound transmission control.

AK101A.1.5.1 Wall and floor-ceiling assemblies. Wall and floor-ceiling assemblies separating dwelling units or guest rooms from each other and from public or service areas such as interior corridors, garages and mechanical spaces shall provide airborne sound insulation for walls, and both airborne and impact sound insulation for floor-ceiling assemblies.

EXCEPTION: Impact sound insulation is not required for floor-ceiling assemblies over nonhabitable rooms or spaces not designed to be occupied, such as garages, mechanical rooms or storage areas.

AK101A.2 Airborne Sound Insulation. All such acoustically rated separating wall and floor-ceiling assemblies shall provide airborne sound insulation equal to that required to meet a sound transmission class (STC) rating of 50 based on laboratory tests as defined in ASTM E 90 and E 413. Field-tested assemblies shall meet a noise isolation class (NIC) rating of 45 for occupied units and a normalized noise isolation class (NNIC) rating of 45 for unoccupied units as defined in ASTM Standards E 336 and E 413.

ASTM E 597 may be used as a simplified procedure for field tests of the airborne sound isolation between rooms in unoccupied buildings. In such tests, the minimum value of Dn is 45 db for compliance.

Entrance doors from interior corridors together with their perimeter seals shall have STC ratings not less than 26. Such tested doors shall operate normally with commercially available seals. Solid-corewood-slab doors 13/8 inches (35 mm) thick minimum or 18 gage insulated steel-slab doors with compression seals all around, including the threshold, may be considered adequate without other substantiating information.

Field tests of corridor walls should not include segments with doors. If such tests are impractical, however, the NIC or NNIC rating for the composite wall-door assembly shall not be less than 30.

Penetrations or openings in construction assemblies for piping, electrical devices, recessed cabinets, bathtubs, soffits or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings.

AK101A.3 Impact Sound Insulation. All acoustically rated separating floor-ceiling assemblies shall provide impact sound insulation equal to that required to meet an IIC rating of 50 based on laboratory tests as defined in ASTM E 492 and E 989. Field-tested assemblies shall meet a field impact insulation class (FIIC) rating of 45 for both occupied and unoccupied units as defined in ASTM E 1007 and E 989, with the exception that the measured impact sound pressure levels shall not be normalized to a standard amount of absorption in the receiving room.

Floor coverings may be included in the assembly to obtain the required ratings. These coverings must be retained as a permanent part of the assembly and may be replaced only by other floor coverings that provide the required impact sound insulation.

AK101A.4 Tested Assemblies.

AK101A.4.1 Laboratory-tested wall or floor-ceiling designs having STC or IIC ratings of 50 or more may be used by the building official to determine compliance with this section during the plan review phase. Field tests shall be required by the building official when evidence of sound leaks or flanking paths is noted, or when the separating assembly is not built according to the approved design.

AK101A.4.2 Generic sound transmission control systems as listed in the Catalog of STC and IIC Ratings for Wall and Floor-Ceiling Assemblies, as published by the Office of Noise Control, California Department of Health Services, or the Fire Resistance Design Manual, as published by the Gypsum Association, may be used to evaluate construction assemblies for their sound transmission properties. Other tests from recognized laboratories may also be used. When ratings for essentially similar assemblies differ, and when ratings are below STC or IIC 50, field testing may be used to demonstrate that the building complies with this section.

AK101A.4.3 For field testing, rooms should ideally be large and reverberant for reliable measurements to be made in all test bands. This is often not possible for bathrooms, kitchens, hallways or rooms with large amounts of sound-absorptive materials. Field test results should,

however, report the measured values in all bands, noting those which do not meet relevant ASTM criteria for diffusion.

AK101A.4.4 It should be noted that STC ratings do not adequately characterize the sound insulation of construction assemblies when the intruding noise is predominantly low pitched, as is often produced by amplified music or by large pieces of mechanical equipment.

It should also be noted that the transmission of impact sound from a standardized tapping machine may vary considerably for a given design due to differences in specimen size, flanking transmission through associated structure and the acoustical response of the room below. Laboratory IIC values should therefore be used with caution when estimating the performance of hard-surfaced floors in the field. Additionally, IIC ratings may not always be adequate to characterize the subjectively annoying creak or boom generated by footfalls on a lumber floor.

AK101A.5 Certification. Field testing, when required, shall be done under the supervision of a person experienced in the field of acoustical testing and engineering and who shall forward test results to the building official showing that the sound isolation requirements stated above have been met. Documentation of field test results should generally follow the requirements outlined in relevant ASTM standards.

AK101A.6 Not adopted by the State of California.

AK101A.7 Not adopted by the State of California.

AK101A.8 Exterior Sound Transmission Control.

AK101A.8.1 Application consistent with local land-use standards, residential structures located in noise critical areas, such as proximity to highways, county roads, city streets, railroads, rapid transit lines, airports or industrial areas shall be designed to prevent the intrusion of exterior noises beyond prescribed levels. Proper design shall include, but shall not be limited to, orientation of the residential structure, setbacks, shielding and sound insulation of the building itself.

AK101A.8.2 Allowable interior noise levels. Interior noise levels attributable to exterior sources shall not exceed 45 db in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

NOTE: Ldn is the preferred metric for implementing these standards.

Worst-case noise levels, either existing or future, shall be used as the basis for determining compliance with this section. Future noise levels shall be predicted for a period of at least 10 years from the time of building permit application.

AK101A.8.3 Airport noise sources. Residential structures to be located where the annual Ldn or CNEL (as defined in Title 21, Sub-chapter 6, California Code of Regulations) exceeds 60 db shall require an acoustical analysis showing that the proposed design will achieve prescribed allowable interior level. For public-use airports or heliports, the Ldn or CNEL shall be determined from the airport land-use plan prepared by the county wherein the airport is located. For military bases, the Ldn shall be determined from the facility Air Installation Compatible Use Zone (AICUZ) plan. For all other airports or heliports, or public-use airports or heliports for which a land-use plan has not been developed, the Ldn or CNEL shall be determined from the noise element of the general plan of the local jurisdiction.

When aircraft noise is not the only significant source, noise levels from all sources shall be added to determine the composite site noise level.

AK101A.8.4 Other noise sources. Residential structures to be located where the Ldn or CNEL exceeds 60 db shall require an acoustical analysis showing that the proposed design will limit exterior noise to the prescribed allowable interior level. The noise element of the local general plan shall be used to the greatest extent possible to identify sites with noise levels potentially greater than 60 db.

AK101A.8.5 Compliance. Evidence of compliance shall consist of submittal of an acoustical analysis report, prepared under the supervision of a person experienced in the field of acoustical engineering, with the application for a building permit. The report shall show topographical relationships of noise sources and dwelling sites, identification of noise sources and their characteristics, predicted noise spectra and levels at the exterior of the proposed dwelling structure considering present and future land usage, basis for the prediction (measured or obtained from published data), noise attenuation measures to be applied, and an analysis of the noise insulation effectiveness of the proposed construction showing that the prescribed interior noise level requirements are met.

If interior allowable noise levels are met by requiring that windows be unopenable or closed, the design for the structure must also specify a ventilation or air -conditioning system to provide a habitable interior environment. The ventilation system must not compromise the dwelling unit or guest room noise reduction.

AK101A.8.6 Field testing. When inspection indicates that the construction is not in accordance with the approved design, or that the noise reduction is compromised due to sound leaks or flanking paths, field testing may be required. A test report showing compliance or noncompliance with prescribed interior allowable levels shall be submitted to the building official.

Measurements of outdoor sound levels shall generally follow the guidelines in ASTM E 1014.

Field measurements of the A-weighted airborne sound insulation of buildings from exterior sources shall generally follow the guidelines in ASTM E 966.

For the purpose of this standard, sound level differences measured in unoccupied units shall be normalized to a receiving room reverberation time of one-half second. Sound level differences measured in occupied units shall not be normalized to a standard reverberation time.